# RAW SEQUENCE LISTING ERROR REPORT
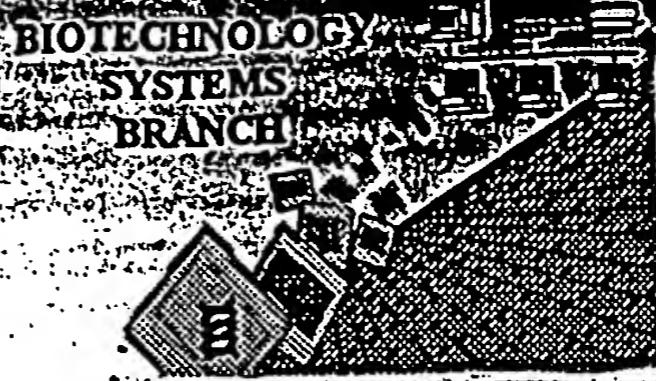
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Application Serial Number: _10/014,099 A_

Source: _OIPE_

Date Processed by STIC: _5/31/02_

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1. EFS-Bio (<http://www.uspto.gov/ebc/efs/downloads/documents.htm> , EFS Submission User Manual - ePAVE)
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3. Hand Carry directly to:
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   Or
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Revised 01/29/2002
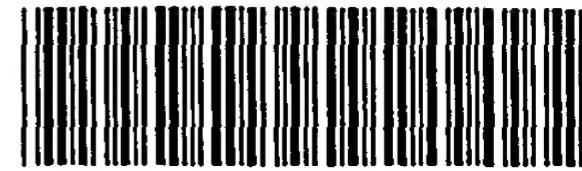
RAW SEQUENCE LISTING   DATE: 05/31/2002
PATENT APPLICATION: US/10/014,099A   TIME: 10:06:08

Input Set : A:\PTOMS.txt
Output Set: N:\CRF3\05312002\J014099A.raw

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     5  <110> APPLICANT: KUEHN, Ralf
     6         FELDER, Susanne
     7         SCHWENK, Frieder
     8         KUETER LUKS, Birgit
     9         FAUST, Nicole
    11  <120> TITLE OF INVENTION: Modified Recombinase
    13  <130> FILE REFERENCE: 012787wo/JH/ml
C--> 15  <140> CURRENT APPLICATION NUMBER: US/10/014,099A
C--> 16  <141> CURRENT FILING DATE: 2001-12-11
    18  <160> NUMBER OF SEQ ID NOS: 108
    20  <170> SOFTWARE: PatentIn Ver. 2.1


ERRORED SEQUENCES                    change to
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  1408  <210> SEQ ID NO: 23
  1409  <211> LENGTH: 620
  1410  <212> TYPE: DNA
  1411  <213> ORGANISM: Artificial Sequence
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  1413  <223> OTHER INFORMATION: Description of Artificial Sequence: DNA sequence
  1414         encoding the fusion protein C31-Int(CNLS)
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  1420  Asp Arg Gln Ser Arg Glu Arg Glu Asn Ser Ser Ala Ala Ser Pro Ala
  1421                  20                  25                  30
  1423  Thr Gln Arg Ser Ala Asn Glu Asp Lys Ala Ala Asp Leu Gln Arg Glu
  1424              35                  40                  45
  1426  Val Glu Arg Asp Gly Gly Arg Phe Arg Phe Val Gly His Phe Ser Glu
  1427          50                  55                  60
  1429  Ala Pro Gly Thr Ser Ala Phe Gly Thr Ala Glu Arg Pro Glu Phe Glu
  1430   65                  70                  75                  80
  1432  Arg Ile Leu Asn Glu Cys Arg Ala Gly Arg Leu Asn Met Ile Ile Val
  1433                  85                  90                  95
  1435  Tyr Asp Val Ser Arg Phe Ser Arg Leu Lys Val Met Asp Ala Ile Pro
  1436                 100                 105                 110
  1438  Ile Val Ser Glu Leu Leu Ala Leu Gly Val Thr Ile Val Ser Thr Gln
  1439             115                 120                 125
  1441  Glu Gly Val Phe Arg Gln Gly Asn Val Met Asp Leu Ile His Leu Ile
  1442         130                 135                 140
  1444  Met Arg Leu Asp Ala Ser His Lys Glu Ser Ser Leu Lys Ser Ala Lys
  1445 145                 150                 155                 160
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Input Set : A:\PTOMS.txt
Output Set: N:\CRF3\05312002\J014099A.raw

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1450 Gly Lys Ala Pro Tyr Gly Phe Glu Leu Val Ser Glu Thr Lys Glu Ile
1451                 180                 185                 190
1453 Thr Arg Asn Gly Arg Met Val Asn Val Val Ile Asn Lys Leu Ala His
1454                 195                 200                 205
1456 Ser Thr Thr Pro Leu Thr Gly Pro Phe Glu Phe Glu Pro Asp Val Ile
1457                 210                 215                 220
1459 Arg Trp Trp Trp Arg Glu Ile Lys Thr His Lys His Leu Pro Phe Lys
1460 225                 230                 235                 240
1462 Pro Gly Ser Gln Ala Ala Ile His Pro Gly Ser Ile Thr Gly Leu Cys
1463                 245                 250                 255
1465 Lys Arg Met Asp Ala Asp Ala Val Pro Thr Arg Gly Glu Thr Ile Gly
1466                 260                 265                 270
1468 Lys Lys Thr Ala Ser Ser Ala Trp Asp Pro Ala Thr Val Met Arg Ile
1469                 275                 280                 285
1471 Leu Arg Asp Pro Arg Ile Ala Gly Phe Ala Ala Glu Val Ile Tyr Lys
1472                 290                 295                 300
1474 Lys Lys Pro Asp Gly Thr Pro Thr Thr Lys Ile Glu Gly Tyr Arg Ile
1475 305                 310                 315                 320
1477 Gln Arg Asp Pro Ile Thr Leu Arg Pro Val Glu Leu Asp Cys Gly Pro
1478                 325                 330                 335
1480 Ile Ile Glu Pro Ala Glu Trp Tyr Glu Leu Gln Ala Trp Leu Asp Gly
1481                 340                 345                 350
1483 Arg Gly Arg Gly Lys Gly Leu Ser Arg Gly Gln Ala Ile Leu Ser Ala
1484                 355                 360                 365
1486 Met Asp Lys Leu Tyr Cys Glu Cys Gly Ala Val Met Thr Ser Lys Arg
1487                 370                 375                 380
1489 Gly Glu Glu Ser Ile Lys Asp Ser Tyr Arg Cys Arg Arg Arg Lys Val
1490 385                 390                 395                 400
1492 Val Asp Pro Ser Ala Pro Gly Gln His Glu Gly Thr Cys Asn Val Ser
1493                 405                 410                 415
1495 Met Ala Ala Leu Asp Lys Phe Val Ala Glu Arg Ile Phe Asn Lys Ile
1496                 420                 425                 430
1498 Arg His Ala Glu Gly Asp Glu Glu Thr Leu Ala Leu Leu Trp Glu Ala
1499                 435                 440                 445
1501 Ala Arg Arg Phe Gly Lys Leu Thr Glu Ala Pro Glu Lys Ser Gly Glu
1502                 450                 455                 460
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1505 465                 470                 475                 480
1507 Glu Leu Tyr Glu Asp Arg Ala Ala Gly Ala Tyr Asp Gly Pro Val Gly
1508                 485                 490                 495
1510 Arg Lys His Phe Arg Lys Gln Gln Ala Ala Leu Thr Leu Arg Gln Gln
1511                 500                 505                 510
1513 Gly Ala Glu Glu Arg Leu Ala Glu Leu Glu Ala Ala Glu Ala Pro Lys
1514                 515                 520                 525
1516 Leu Pro Leu Asp Gln Trp Phe Pro Glu Asp Ala Asp Ala Asp Pro Thr
1517                 530                 535                 540
1519 Gly Pro Lys Ser Trp Trp Gly Arg Ala Ser Val Asp Asp Lys Arg Val
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Input Set : **A:\PTOMS.txt**
Output Set: **N:\CRF3\05312002\J014099A.raw**

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      1520 545                    550                  555                    560
      1522 Phe Val Gly Leu Phe Val Asp Lys Ile Val Val Thr Lys Ser Thr Thr
      1523             565                  570                  575
      1525 Gly Arg Gly Gln Gly Thr Pro Ile Glu Lys Arg Ala Ser Ile Thr Trp
      1526         580                  585                  590
      1528 Ala Lys Pro Pro Thr Asp Asp Asp Glu Asp Asp Ala Gln Asp Gly Thr
      1529         595                  600                  605
      1531 Glu Asp Val Ala Ala Pro Lys Lys Lys Arg Lys Val
E--> 1532     610                  615                  620
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      3322 <211> LENGTH: 335
      3323 <212> TYPE: PRT
      3324 <213> ORGANISM: Artificial Sequence
N--> 3325 <220> FEATURE:
      3325 <223> OTHER INFORMATION: Description of Artificial Sequence: vector
      3326         pBS-SSV3
E--> 3328 <400> SEQUENCE: 65
      3329 Met Thr Lys Asp Lys Thr Arg Tyr Lys Tyr Gly Asp Tyr Ile Leu Arg
      3330   1             5                  10                  15
      3332 Glu Arg Lys Gly Arg Tyr Tyr Val Tyr Lys Leu Glu Tyr Glu Asn Gly
      3333             20                  25                  30
      3335 Glu Val Lys Glu Arg Tyr Val Gly Pro Leu Ala Asp Val Val Glu Ser
      3336         35                  40                  45
      3338 Tyr Leu Lys Met Lys Leu Gly Val Val Gly Asp Thr Pro Leu Gln Ala
      3339     50                  55                  60
      3341 Asp Pro Pro Gly Phe Glu Pro Gly Thr Ser Gly Ser Gly Gly Gly Lys
      3342  65                  70                  75                  80
      3344 Glu Gly Thr Glu Arg Arg Lys Ile Ala Leu Val Ala Asn Leu Arg Gln
      3345             85                  90                  95
      3347 Tyr Ala Thr Asp Gly Asn Ile Lys Ala Phe Tyr Asn Tyr Leu Met Asn
      3348         100                 105                 110
      3350 Glu Arg Gly Ile Ser Glu Lys Thr Ala Lys Asp Tyr Ile Asn Ala Ile
      3351         115                 120                 125
      3353 Ser Lys Pro Tyr Lys Glu Thr Arg Asp Ala Gln Lys Ala Tyr Arg Leu
      3354     130                 135                 140
      3356 Phe Ala Arg Phe Leu Ala Ser Arg Asn Ile Ile His Asp Glu Phe Ala
      3357 145                 150                 155                 160
      3359 Asp Lys Ile Leu Lys Ala Val Lys Val Lys Lys Ala Asn Ala Asp Ile
      3360             165                 170                 175
      3362 Tyr Ile Pro Thr Leu Glu Glu Ile Lys Arg Thr Leu Gln Leu Ala Lys
      3363         180                 185                 190
      3365 Asp Tyr Ser Glu Asn Val Tyr Phe Ile Tyr Arg Ile Ala Leu Glu Ser
      3366     195                 200                 205
      3368 Gly Val Arg Leu Ser Glu Ile Leu Lys Val Leu Lys Glu Pro Glu Arg
      3369     210                 215                 220
      3371 Asp Ile Cys Gly Asn Asp Val Cys Tyr Tyr Pro Leu Ser Trp Thr Arg
      3372 225                 230                 235                 240
      3374 Gly Tyr Lys Gly Val Phe Tyr Val Phe His Ile Thr Pro Leu Lys Arg
      3375             245                 250                 255
```

[handwritten annotation, right margin]: <220> is mandatory and needs to be inserted

Input Set : A:\PTOMS.txt
Output Set: N:\CRF3\05312002\J014099A.raw

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3378                 260             265             270
3380 Asp Ala Ile Ala Ile Lys Tyr Phe Arg Lys Phe Val Ala Ser Lys Met
3381         275             280             285
3383 Ala Glu Leu Ser Val Pro Leu Asp Ile Ile Asp Phe Ile Gln Gly Arg
3384     290             295             300
3386 Lys Pro Thr Arg Val Leu Thr Gln His Tyr Val Ser Leu Phe Gly Ile
3387 305             310             315             320
3389 Ala Lys Glu Gln Tyr Lys Lys Tyr Ala Glu Trp Leu Lys Gly Val
3390             325             330             335
3529 <210> SEQ ID NO: 67
3530 <211> LENGTH: 479
3531 <212> TYPE: PRT
3532 <213> ORGANISM: Artificial Sequence
3533 <220> FEATURE:
3533 <223> OTHER INFORMATION: Description of Artificial Sequence: DNA sequence
3534       coding for fusion protein NLS-XisA
3536 <400> SEQUENCE: 67
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3541         20              25              30
3543 Phe Leu Gly Ser Ser Leu Gln Ala Gln Gln Gln Arg Glu His Met Arg
3544         35              40              45
3546 Thr Lys Val Leu Gln Asp Leu Asp Lys Val Asn Leu Arg Leu Lys Ser
3547     50              55              60
3549 Ala Lys Thr Lys Val Ser Val Arg Glu Ser Asn Gly Ser Leu Gln Leu
3550 65              70              75                      80
3552 Arg Ala Thr Leu Pro Ile Lys Pro Gly Asp Lys Asp Thr Asn Gly Thr
3553             85              90                      95
3555 Gly Arg Lys Gln Tyr Asn Leu Ser Leu Asn Ile Pro Ala Asn Leu Asp
3556             100             105             110
3558 Gly Leu Lys Thr Ala Glu Glu Glu Ala Tyr Glu Leu Gly Lys Leu Ile
3559         115             120             125
3561 Ala Arg Lys Thr Phe Glu Trp Asn Asp Lys Tyr Leu Gly Lys Glu Ala
3562     130             135             140
3564 Thr Lys Lys Asp Ser Gln Thr Ile Gly Asp Leu Leu Glu Lys Phe Ala
3565 145             150             155             160
3567 Glu Glu Tyr Phe Lys Thr His Lys Arg Thr Thr Lys Ser Glu His Thr
3568             165             170             175
3570 Phe Phe Tyr Tyr Phe Ser Arg Thr Gln Arg Tyr Thr Asn Ser Lys Asp
3571         180             185             190
3573 Leu Ala Thr Ala Glu Asn Leu Ile Asn Ser Ile Glu Gln Ile Asp Lys
3574         195             200             205
3576 Glu Trp Ala Arg Tyr Asn Ala Ala Arg Ala Ile Ser Ala Phe Cys Ile
3577     210             215             220
3579 Thr Phe Asn Ile Glu Ile Asp Leu Ser Gln Tyr Ser Lys Met Pro Asp
3580 225             230             235             240
3582 Arg Asn Ser Arg Asn Ile Pro Thr Asp Ala Glu Ile Leu Ser Gly Ile
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<220> is mandatory and needs to be inserted.

Input Set : A:\PTOMS.txt
Output Set: N:\CRF3\05312002\J014099A.raw

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                      245              250                 255
3583
3585 Thr Lys Phe Glu Asp Tyr Leu Val Thr Arg Gly Asn Gln Val Asn Glu
3586          260                 265                 270
3588 Asp Val Lys Asp Ser Trp Gln Leu Trp Arg Trp Thr Tyr Gly Met Leu
3589          275                 280                 285
3591 Ala Val Phe Gly Leu Arg Pro Arg Glu Ile Phe Ile Asn Pro Asn Ile
3592          290                 295                 300
3594 Asp Trp Trp Leu Ser Lys Glu Asn Ile Asp Leu Thr Trp Lys Val Asp
3595 305                 310                 315                 320
3597 Lys Glu Cys Lys Thr Gly Glu Arg Gln Ala Leu Pro Leu His Lys Glu
3598          325                 330                 335
3600 Trp Ile Asp Glu Phe Asp Leu Arg Asn Pro Lys Tyr Leu Glu Met Leu
3601          340                 345                 350
3603 Ala Thr Ala Ile Ser Lys Lys Asp Lys Thr Asn His Ala Glu Ile Thr
3604          355                 360                 365
3606 Ala Leu Thr Gln Arg Ile Ser Trp Trp Phe Arg Lys Val Glu Leu Asp
3607          370                 375                 380
3609 Phe Lys Pro Tyr Asp Leu Arg His Ala Trp Ala Ile Arg Ala His Ile
3610 385                 390                 395                 400
3612 Leu Gly Ile Pro Ile Lys Ala Ala Ala Asp Asn Leu Gly His Ser Met
3613          405                 410                 415
3615 Gln Val His Thr Gln Thr Tyr Gln Arg Trp Phe Ser Leu Asp Met Arg
3616          420                 425                 430
3618 Lys Leu Ala Ile Asn Gln Ala Leu Thr Lys Arg Asn Glu Phe Glu Val
3619          435                 440                 445
3621 Ile Arg Glu Glu Asn Ala Lys Leu Gln Ile Glu Asn Glu Arg Leu Arg
3622          450                 455                 460
3624 Met Glu Ile Glu Lys Leu Lys Met Glu Ile Ala Tyr Lys Asn Ser
3625 465                 470                 475
3732 <210> SEQ ID NO: 69
3733 <211> LENGTH: 342
3734 <212> TYPE: PRT
3735 <213> ORGANISM: Artificial Sequence
3736 <220> FEATURE:
3736 <223> OTHER INFORMATION: Description of Artificial Sequence: DNA sequence
3737       coding for fusion protein NLS-Ssv
3739 <400> SEQUENCE: 69
3740 Met Pro Lys Lys Lys Arg Lys Val Thr Lys Asp Lys Thr Arg Tyr Lys
3741 1               5                   10                  15
3743 Tyr Gly Asp Tyr Ile Leu Arg Glu Arg Lys Gly Arg Tyr Tyr Val Tyr
3744          20                  25                  30
3746 Lys Leu Glu Tyr Glu Asn Gly Glu Val Lys Glu Arg Tyr Val Gly Pro
3747          35                  40                  45
3749 Leu Ala Asp Val Val Glu Ser Tyr Leu Lys Met Lys Leu Gly Val Val
3750          50                  55                  60
3752 Gly Asp Thr Pro Leu Gln Ala Asp Pro Pro Gly Phe Glu Pro Gly Thr
3753 65                  70                  75                  80
3755 Ser Gly Ser Gly Gly Gly Lys Glu Gly Thr Glu Arg Arg Lys Ile Ala
3756          85                  90                  95
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[handwritten annotation:] W--> 3736 ... <220> is mandatory and needs to be inserted

[handwritten annotation:] E--> 3739

Input Set : A:\PTOMS.txt
Output Set: N:\CRF3\05312002\J014099A.raw

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3762         115             120             125
3764 Lys Asp Tyr Ile Asn Ala Ile Ser Lys Pro Tyr Lys Glu Thr Arg Asp
3765 130             135             140
3767 Ala Gln Lys Ala Tyr Arg Leu Phe Ala Arg Phe Leu Ala Ser Arg Asn
3768 145             150             155             160
3770 Ile Ile His Asp Glu Phe Ala Asp Lys Ile Leu Lys Ala Val Lys Val
3771         165             170             175
3773 Lys Lys Ala Asn Ala Asp Ile Tyr Ile Pro Thr Leu Glu Glu Ile Lys
3774         180             185             190
3776 Arg Thr Leu Gln Leu Ala Lys Asp Tyr Ser Glu Asn Val Tyr Phe Ile
3777         195             200             205
3779 Tyr Arg Ile Ala Leu Glu Ser Gly Val Arg Leu Ser Glu Ile Leu Lys
3780         210             215             220
3782 Val Leu Lys Glu Pro Glu Arg Asp Ile Cys Gly Asn Asp Val Cys Tyr
3783 225             230             235             240
3785 Tyr Pro Leu Ser Trp Thr Arg Gly Tyr Lys Gly Val Phe Tyr Val Phe
3786         245             250             255
3788 His Ile Thr Pro Leu Lys Arg Val Glu Val Thr Lys Trp Ala Ile Ala
3789         260             265             270
3791 Asp Phe Glu Arg Arg His Lys Asp Ala Ile Ala Ile Lys Tyr Phe Arg
3792         275             280             285
3794 Lys Phe Val Ala Ser Lys Met Ala Glu Leu Ser Val Pro Leu Asp Ile
3795         290             295             300
3797 Ile Asp Phe Ile Gln Gly Arg Lys Pro Thr Arg Val Leu Thr Gln His
3798 305             310             315             320
3800 Tyr Val Ser Leu Phe Gly Ile Ala Lys Glu Gln Tyr Lys Lys Tyr Ala
3801         325             330             335
3803 Glu Trp Leu Lys Gly Val
3804         340
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6201         20              25              30
6203 Tyr Ala Glu Ala Met Gly Trp Gln Val Ser Asp Thr Tyr Thr Asp Ala
6204         35              40              45
6206 Gly Phe Ser Gly Ala Lys Leu Glu Arg Pro Ala Met Gln Arg Leu Ile
6207         50              55              60
6209 Asn Asp Ile Glu Asn Lys Ala Phe Asp Thr Val Leu Val Tyr Lys Leu
6210 65              70              75              80
6212 Asp Arg Leu Ser Arg Ser Val Arg Asp Thr Leu Tyr Leu Val Lys Asp
6213         85              90              95
```

Input Set : A:\PTOMS.txt
Output Set: N:\CRF3\05312002\J014099A.raw

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6219           115              120              125
6221 Ile Asn Glu Phe Glu Arg Glu Asn Ile Lys Glu Arg Met Thr Met Gly
6222       130              135              140
6224 Lys Leu Gly Arg Ala Lys Ser Gly Lys Ser Met Met Trp Thr Lys Thr
6225 145              150              155              160
6227 Ala Phe Gly Tyr Tyr His Asn Arg Lys Thr Gly Ile Leu Glu Ile Val
6228               165              170              175
6230 Pro Leu Gln Ala Thr Ile Val Glu Gln Ile Phe Thr Asp Tyr Leu Ser
6231           180              185              190
6233 Gly Ile Ser Leu Thr Lys Leu Arg Asp Lys Leu Asn Glu Ser Gly His
6234           195              200              205
6236 Ile Gly Lys Asp Ile Pro Trp Ser Tyr Arg Thr Leu Arg Gln Thr Leu
6237      210              215              220
6239 Asp Asn Pro Val Tyr Cys Gly Tyr Ile Lys Phe Lys Asp Ser Leu Phe
6240 225              230              235              240
6242 Glu Gly Met His Lys Pro Ile Ile Pro Tyr Glu Thr Tyr Leu Lys Val
6243               245              250              255
6245 Gln Lys Glu Leu Glu Glu Arg Gln Gln Gln Thr Tyr Glu Arg Asn Asn
6246           260              265              270
6248 Asn Pro Arg Pro Phe Gln Ala Lys Tyr Met Leu Ser Gly Met Ala Arg
6249           275              280              285
6251 Cys Gly Tyr Cys Gly Ala Pro Leu Lys Ile Val Leu Gly His Lys Arg
6252      290              295              300
6254 Lys Asp Gly Ser Arg Thr Met Lys Tyr His Cys Ala Asn Arg Phe Pro
6255 305              310              315              320
6257 Arg Lys Thr Lys Gly Ile Thr Val Tyr Asn Asp Asn Lys Lys Cys Asp
6258           325              330              335
6260 Ser Gly Thr Tyr Asp Leu Ser Asn Leu Glu Asn Thr Val Ile Asp Asn
6261           340              345              350
6263 Leu Ile Gly Phe Gln Glu Asn Asn Asp Ser Leu Leu Lys Ile Ile Asn
6264           355              360              365
6266 Gly Asn Asn Gln Pro Ile Leu Asp Thr Ser Ser Phe Lys Lys Gln Ile
6267      370              375              380
6269 Ser Gln Ile Asp Lys Lys Ile Gln Lys Asn Ser Asp Leu Tyr Leu Asn
6270 385              390              395              400
6272 Asp Phe Ile Thr Met Asp Glu Leu Lys Asp Arg Thr Asp Ser Leu Gln
6273           405              410              415
6275 Ala Glu Lys Lys Leu Leu Lys Ala Lys Ile Ser Glu Asn Lys Phe Asn
6276           420              425              430
6278 Asp Ser Thr Asp Val Phe Glu Leu Val Lys Thr Gln Leu Gly Ser Ile
6279           435              440              445
6281 Pro Ile Asn Glu Leu Ser Tyr Asp Asn Lys Lys Lys Ile Val Asn Asn
6282      450              455              460
6284 Leu Val Ser Lys Val Asp Val Thr Ala Asp Asn Val Asp Ile Ile Phe
6285 465              470              475              480
6287 Lys Phe Gln Leu Ala
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6288
E--> 6294 1   485

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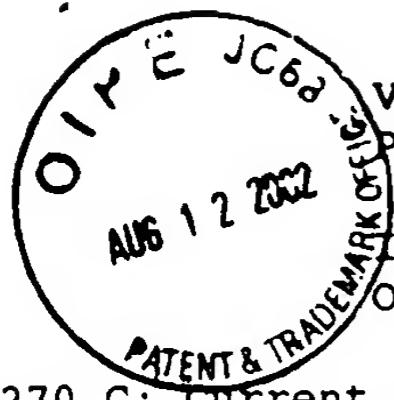
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L:16 M:271 C: Current Filing Date differs, Replaced Current Filing Date
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L:263 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:10
L:921 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:922 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:19
L:928 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:19
L:937 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19 after pos.:480
L:1412 M:283 W: Missing Blank Line separator, <220> field identifier
L:1532 M:252 E: No. of Seq. differs, <211> LENGTH:Input:620 Found:0 SEQ:23
L:3325 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:65
L:3328 M:200 E: Mandatory Header Field missing, <220> not found for SEQ ID#:65
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